BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U 39-E), for Approval of 2006–2008 Demand Response Programs and Budgets.	Application 05-06-006 (Filed June 1, 2005)
Application of Southern California Edison Company (U 338-E), for Approval of 2006-2008 Demand Response Programs and Cost Recovery Mechanism.	Application 05-06-008 (Filed June 1, 2005)
Application of San Diego Gas & Electric Company (U 902-E) for Approval of 2006–2008 Demand Response Programs and Budgets.	Application 05-06-017 (Filed June 2, 2005)

Proposals in Response to Commissioner Peevey's ACRs on Demand Response

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INTRODUCTION

In accordance with Rule 45 of the California Public Utilities Commission's Rules of Practice and Procedure, and with ALJ Malcolm's September 7, 2006 email order in this proceeding, the Association of California Water Agencies (ACWA) submits these proposals for consideration. ACWA is an Association comprised of approximately 450 public water agencies. Collectively ACWA members are responsible for over 90 percent of the water delivered in California.

BACKGROUND ON DEVELOPMENT OF WATER AGENCY DEMAND REDUCTION/RESPONSE PROPOSALS

Decision 06-03-024 in this proceeding adopted a budget and a settlement by the parties in this proceeding. Part of that settlement was to develop water agency specific programs:

> ***"Water Agency Programs:*** *Parties agree that the utilities should convene meetings with interested parties to develop demand response programs for water agencies; that the utilities will file related program details and budgets by October 31, 2006."* (D.06-03-024, pg 14).

ACWA has been working with the utilities throughout the summer on this project, with a meeting on June 29th at the ACWA office in Sacramento to review the water agencies proposals, and subsequent communications to review utility proposals. At this point, we are at an impasse; the utility proposal is so dramatically different from the water agencies proposals that there is little hope of reaching a consensus.

Accordingly, on September 7th, 2006, we asked ALJ Malcolm if we could submit the water agencies proposals in conformance with her order for additional comments and hearings, and leave the October filing date for the utility proposal. Following her advice, we submit these comments and proposals for consideration.

WATER AGENCY RESPONSE DURING THE JULY HEATSTORM

ACWA provided a summary of water agency demand response during the July heatstorm to the California Energy Commission during the hearing on August 29th. A summary of that presentation is an illustrative backdrop to the water agencies proposals provided here.

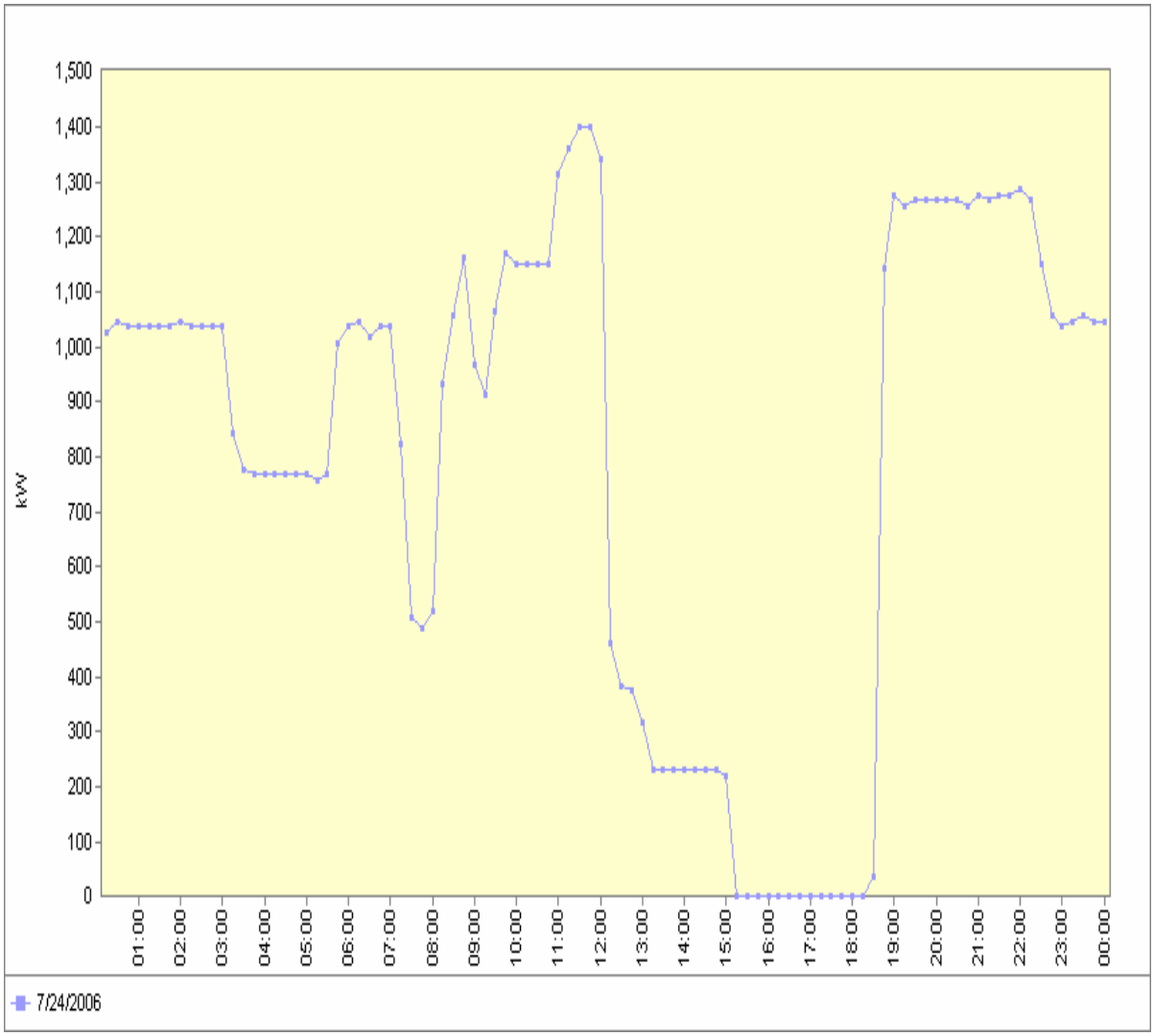
Water agencies routinely drop hundreds of MWs during the summer on-peak period through a combination of alternative pumping schemes (primarily natural gas) and the use of storage. The following are some examples of how the water agencies responded during the July heatstorm.

Humboldt Bay Municipal Water District (Humboldt Bay) - Humboldt Bay reduces it's on-peak electrical demand from it's fresh water pumping facility by up to 2 MW during the on-peak period. Figure 1 shows Humboldt Bay's on-peak response during the July record electrical demand day, Monday, July 24th.

Humboldt Bay reduced its on-peak demand from this facility by about 1 MW for the first three hours of the peak period on July 24th, and reduced its electrical demand to zero for the remaining three hours (3-6 p.m.).

It should be noted that this demand reduction potential from Humboldt Bay will soon be unavailable, as the required diesel retrofits necessary to keep this engine available for peak shaving are too expensive for the agency and the engine is scheduled to be relegated to emergency status in upcoming years. ACWA notes that PG&E has filed an Advice Letter that would provide funding for these retrofits in return for allowing them to be used for on-peak electrical demand reductions. ACWA supports this PG&E proposal.

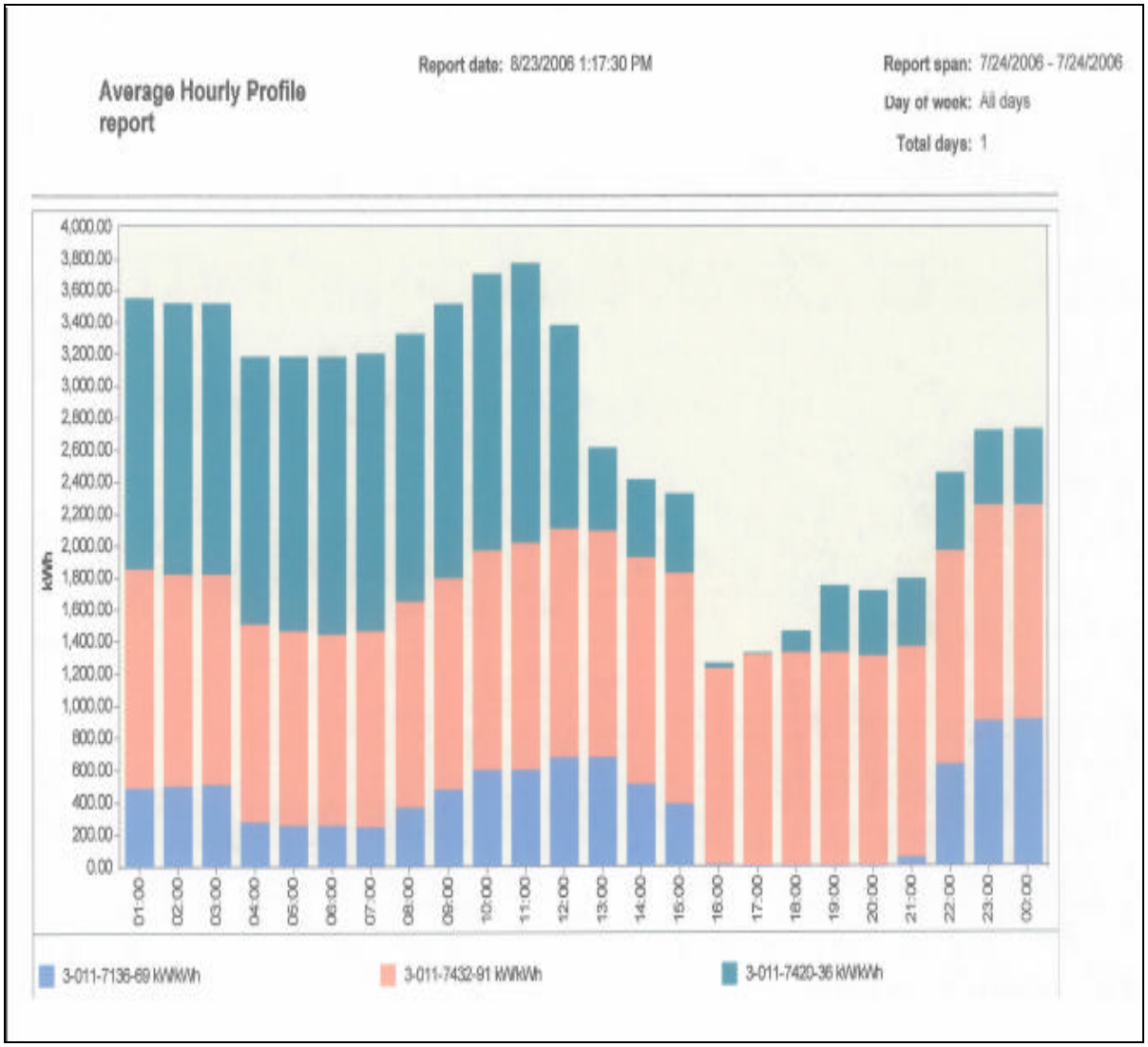
Figure 1. Humboldt Bay MWD Fresh Water Electrical Demand- July 24, 2006



Eastern Municipal Water District (Eastern MWD) – Eastern MWD uses natural gas engines at several of its facilities to reduce its on-peak electrical demand. Figure 2 provides a summary of three of these accounts for July 24th. This figure is a bit unusual in that it shows only two of the accounts dropping electrical load. Eastern MWD typically drops up to 4 MW of on-peak electrical demand from these accounts. Figure 2 shows that on this day, two of the accounts reduced electric demand by over one-half during the noon to 3 p.m. period, and shut off

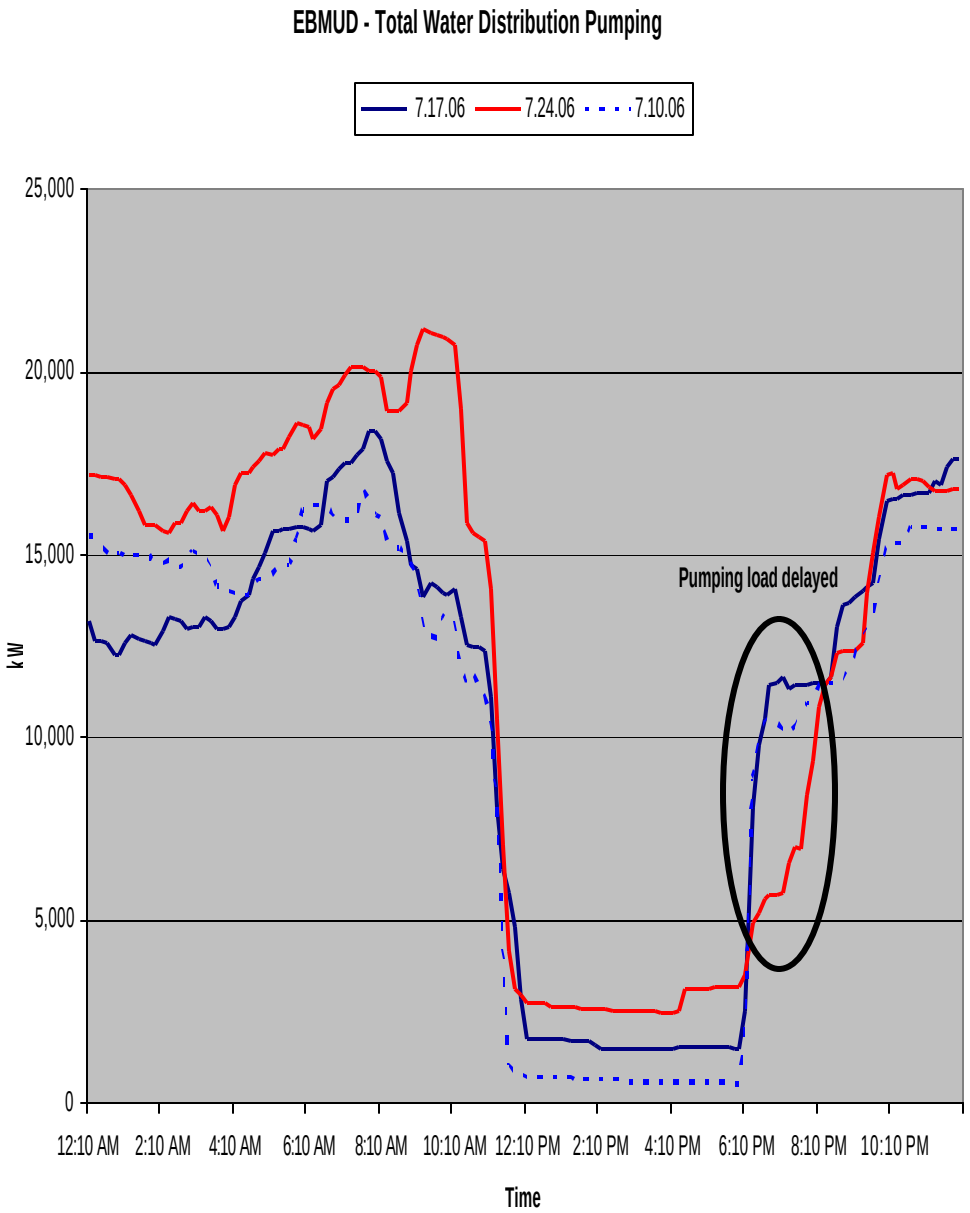
completely during the 3-6 p.m. period. Normally all three of these accounts will drop electrical usage during the on-peak period, but this day (Monday, July 24th) followed a week of on-peak curtailments and on Friday, July 21st, the engine on the account shown in orange in the figure developed a vibration problem due to the continual use during that week. On July 24th, Eastern MWD operators had not yet fixed the engine vibration problem and had to use the electric pumps in order to supply water. Under normal circumstances, Eastern MWD can drop the entire electrical demand from these accounts during the on-peak period.

Figure 2. Eastern MWD Electrical Demand - July 24, 2006. Three accounts.



East Bay Municipal Utility District (East Bay) - Figure 3 shows East Bay's electrical demand profile for three Mondays in July - the 10th, 17th, and 24th. Notice that the initial total pumping load on July 24th was considerably higher than on the other Mondays of the month. This was due to increased water demand following the exceedingly hot weekend.

Figure 3. East Bay Municipal Utility District Demand Response



East Bay routinely reduces its electrical demand during the on-peak period, as the figure shows. On July 24th East Bay dropped over 15 MW during the on-peak period from noon to 6 p.m. Note the circled area on the figure. Normally East Bay returns to electric pumping right after 6 p.m. but on July 24th they received a call from PG&E expressing PG&E's concern about another 15 MW hitting its system at 6 p.m. and asked East Bay to gradually bring its electrical pumping load back instead of bringing it back all at once, which East Bay accommodated.

El Dorado Irrigation District (EID) The following figures from EID's El Dorado Hills fresh water system illustrate a number of important points. All water agencies that supply treated water have some storage in its systems. Water storage is added to optimize water system operation. Adding water storage solely to reduce on-peak electrical demand is not cost effective under the current regimes. The spread in on/off-peak electricity prices, and the variations associated with rate design (witness the current PG&E GRC proposal to further reduce the spread in on/off-peak demand charges) combine to discourage investments in these multi-million dollar projects unless they are necessary for water system operations.

There is a "minimal pool" of water kept in storage at all times: fire protection water, contingency or emergency water, and water for pressure. The ability to use water storage to reduce on-peak electrical demand depends upon the system, particularly the amount of storage relative to water delivery demands, and the time it takes the water agency to refill its storage. Water agencies can dip into minimum pool levels (particularly pressure water) occasionally if they can recover in subsequent days. The month of July clearly show that every subsequent day of using storage and not completely refilling reduces the amount of time storage can be used to reduce on-peak electrical demands.

In 2004, EID accelerated the installation of an additional storage facility that was already scheduled for water demand growth in El Dorado Hills. This allows EID to reduce up to 2.5 MW of on-peak electrical demand from the El Dorado Hills fresh water system for several years (until the water demand growth catches up to the storage requirements in the area).

Figure 4 shows EID's El Dorado Hills fresh water system electrical demand for the week starting July 15th. The graph begins on the previous Saturday. Note that on Monday and Tuesday (July 17 and 18) EID completely shut off both its raw water pumping facility and treatment plant during the noon to 6 p.m. period. On Wednesday of that week EID operators realized that they could not recover from subsequent days of six hours draining storage and meet water delivery requirements. Therefore, on Wednesday they had to maintain pumping throughout the peak period in order to refill storage and re-equilibrate the system. On Thursday, July 20th, instead of shutting everything off at these two facilities for the entire six hour period, the EID operators tried reducing the raw water and treatment plant to about one-half operation for the first three hours of the on-peak period (noon to 3 p.m.) and then shut these two accounts down completely and rely totally upon storage for the 3 to 6 p.m. period. They were able to recover water needs using that operating regime and subsequently adopted it as operating protocol during electrical crises.

Figure 4. EID El Dorado Hills Raw Water and Treatment Plant - July 15-21, 2006

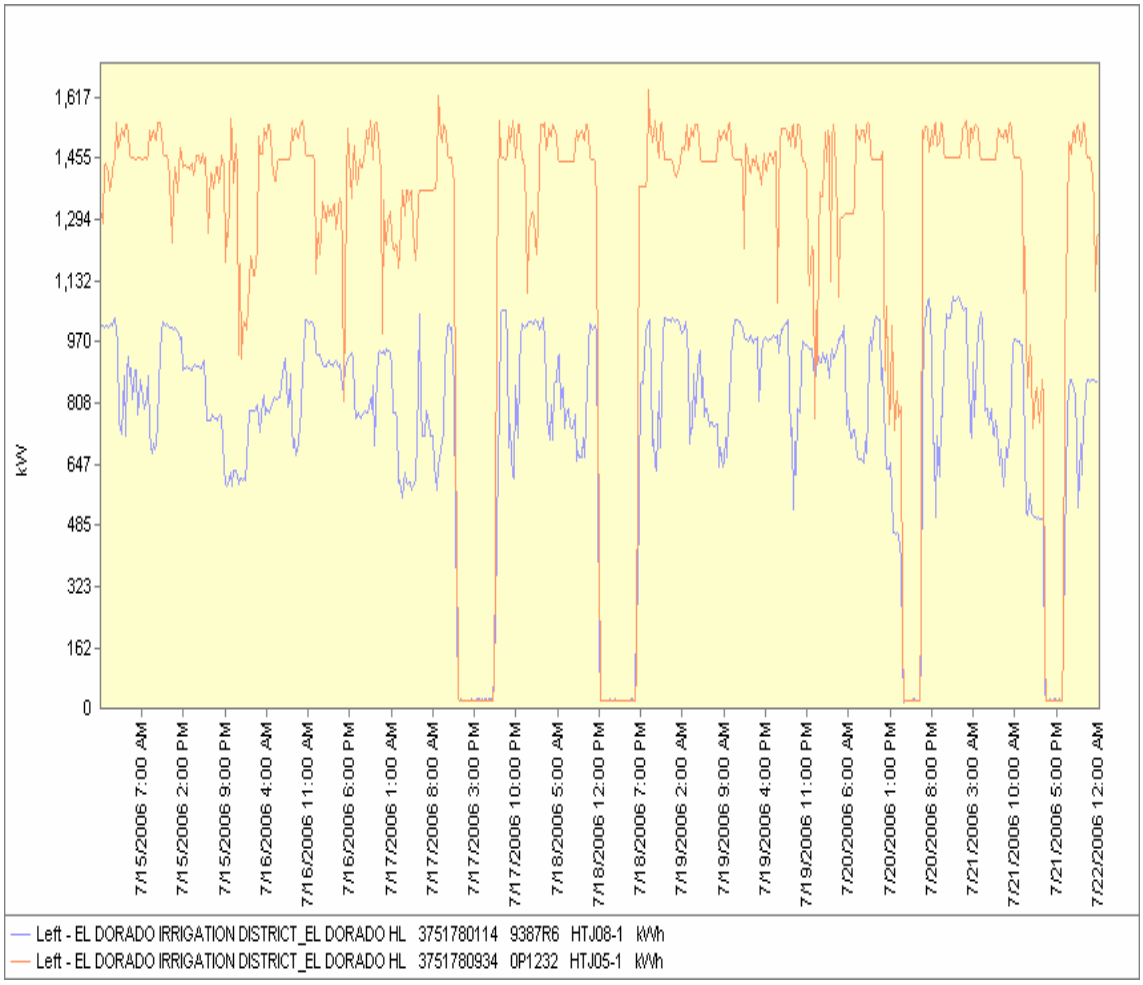
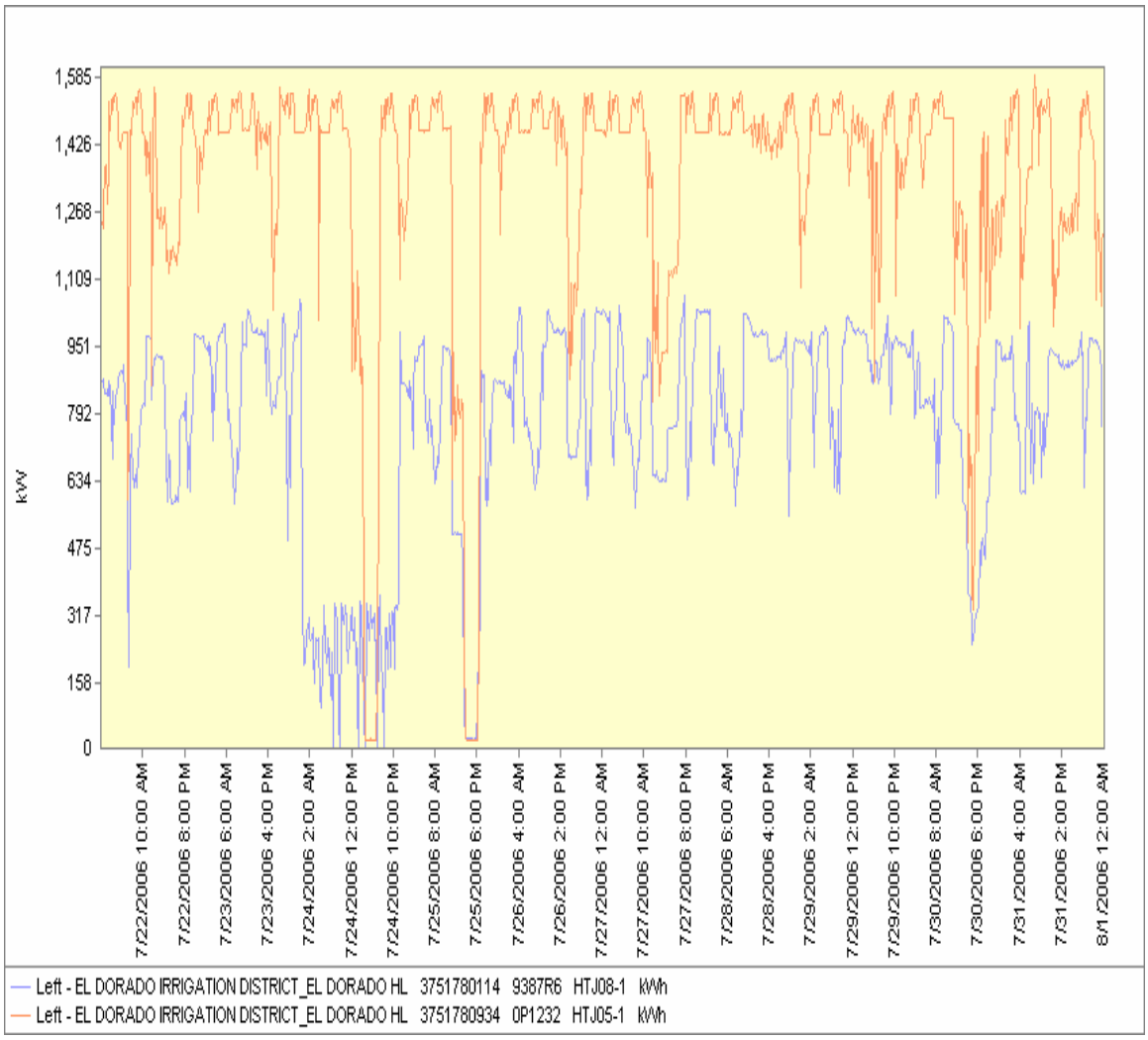


Figure 5 shows the electrical demand at these two EID facilities during the following week. On Monday and Tuesday, EID followed the operating regime that it worked out the previous week: curtail part of the demand for the initial three hour period, and all of the demand during the final three hours of the on-peak period. By Wednesday, temperatures had moderated and the crisis ended so EID went back to normal operations.

Figure 5. EID El Dorado Hills Raw Water and Treatment Plant - July 22-31, 2006



Observations

What the prior discussion illustrates is that the proposals that are provided in this testimony for both permanent on-peak demand reductions and demand response from the water agencies in the state do not rely upon new, unproven and/or unfamiliar technology. The water agencies know how to reduce on-peak electrical demand via a variety of technologies, but the unfavorable economics of on-peak demand reduction options have prevented them from doing so.

These are large projects, particularly if additional storage is added. Adding an eight million gallon storage facility will cost a typical water agency over $10 million in construction and engineering alone. Three parameters make these investments uneconomical.

- The level of current utility incentives is inadequate to overcome the high capital costs.
- Current rate differentials between the on- and off-peak periods are insufficient to recoup the initial investment in any reasonable time frame.
- The lack of long-term stability in both rate design and demand response programs requires the entire capital investment to be recovered in one, or maybe two, summers.

Combine all this with the increased operating personnel costs (the staff can't leave at 6 p.m. daily if the system is refilling during the night) and water agencies simply can't prudently make such a huge investment in infrastructure given the poor economics and instability in the electric sector. This is unfortunate, for the potential is huge. Water agencies could easily reduce its on-peak electrical demand by an additional 500 to 1,000 MW in California with technologies that they are very familiar and comfortable with.

The proposals that we are providing today address these issues from the water agency perspective. Two proposals are provided: a permanent or consistent, on-peak demand reduction, and a demand response program.

When a water agency adds storage above and beyond its water supply needs, it creates two additional products for the system: a permanent on-peak reduction potential and a curtailable demand response potential. The additional storage allows the water agency to reduce some of its on-peak electrical pumping requirements every day. Stated another way, there is some of the additional water in storage that can be used every day to reduce on-peak electrical demands – a permanent on-peak electrical demand reduction. There

is also some of the additional water in storage that can be used on a curtailable basis, depending upon the situation the water agency finds itself in. The EID example is a good illustration of this. The additional storage allows EID to curtail about one-half of the raw water and treatment electrical demand for the entire six hour on-peak period every day. It will also allow EID to shut off all the electrical demand for these two accounts for a three hour period if called upon by the utility for demand response.

THE PROPOSALS

Overview

We are providing a brief overview of our proposals, followed by annotated sample tariff sheets, an example of how the methodology would work, and examples of identified water agencies and its potential demand reduction.

There are two programs; a permanent on-peak demand reduction, and a curtailable demand response program. Both programs share these characteristics:

1. Contract arrangement with individual water agency
2. ACWA is Program Coordinator and provides the technical assessment
3. Duration: 1-5 years
4. Price paid for demand reductions and/or demand response: $85/kW per year capacity payment – no energy payments
5. Meters – any interval meter qualifies – must be listed on contract
6. Aggregation - can aggregate accounts throughout water system – both water agency accounts and customers accounts
7. Technology independent – means of on-peak demand reduction immaterial
8. Program costs - $2.90 million per year (at full build out)
8. Estimated demand reduction (both programs) = 30 MW

PWADR (Permanent Water Agency Demand Reduction)

This program is for consistent water agency demand reductions throughout the summer on-peak period. Customer nominates permanent on-

peak demand reductions by year. The customer energy baseline will be determined by ACWA in one of two ways: either monthly average on-peak period demand at various water delivery levels from historic operations or, if significant amounts of new load are being added in the future, monthly on-peak period demand at various water delivery levels from benchmarked system simulation.

The payment is either monthly capacity payments based upon actual reductions adjusted for capacity penalty or an up front payment. Up front payment is the net present value (NPV) using a utility discount rate of 7.5 percent of the capacity prices multiplied by the nominated annual curtailed demand. If taking up front payment, the customer will be billed for any difference between monthly actual average demand reductions and nominated demand reductions.

For up front payments there is a capacity penalty – for actual demand reductions as a percent of nominated demand reductions the following payment schedule applies:

Average Monthly Hourly Delivered Capacity (%)	Capacity Penalty (%)	Monthly Capacity Payment
90-100%	0	1.0* nominated capacity*capacity price
75-90%	25%	.75 * nominated capacity*capacity price
50-75%	50%	.50 *nominated capacity*capacity price
25-50%	75%	.25 * nominated capacity*capacity price
0-25%	100%	0 * nominated capacity * capacity price

CWADR (Curtailable Water Agency Demand Reduction)

This program is for water agency demand response at the call of the utility. The call is the same as Critical Peak Pricing (CPP) events. Customer energy baseline is determined by CPP event demand compared with maximum three day average actual demand during the last 10 comparable days. Customer

nominates curtailable on-peak demand reductions by year, and whether it will curtail during three hour CPP high priced period, or for entire six hour CPP period.

If the customer nominates curtailable demand for the entire CPP period (six hours) the customer will receive an $85/kw-year are unadjusted payment level. If the customer nominates for the three hour high-priced period, the customer payment is $56/kW-yr. Customer either gets monthly capacity payments based upon actual reductions adjusted for capacity penalty or can get up front payment. Up front payment is the net present value (NPV) using a utility discount rate of 7.5 percent of the capacity prices multiplied by the nominated annual curtailed demand. If taking up front payment, customer will be billed for any difference between monthly actual average demand reductions and nominated demand reductions. If taking up front payments there is a capacity penalty – for actual demand reductions as percent of nominated demand reductions the following payment schedule.

If there are no CPP calls during the month, full capacity payments based upon nominated capacity are made.

Average Monthly Hourly Delivered Capacity (%)	Capacity Penalty (%)	Monthly Capacity Payment
90-100%	0	1.0* nominated capacity*capacity price
75-90%	30%	.70 * nominated capacity*capacity price
50-75%	66%	.33 *nominated capacity*capacity price
0-50%	100%	.0 * nominated capacity*capacity price

CURTAILABLE WATER AGENCY DEMAND RESPONSE (CWADR) SAMPLE TARIFF

yellow/orange=inserted information by utilities
red = comments and illustrations

APPLICABILITY: The curtailable water agency demand response (CWADR), a voluntary demand response program that offers customers incentive payments for reducing electricity consumption when requested by (utility name).. Schedule CWADR is available to all *(utility name)* bundled-service customers served on electric rate schedules *(list)* or its successors. Each customer must continue to take service under the provisions of its otherwise-applicable Tariff (OAT). The CWADR program only operates during the summer months (list).

All customer accounts on this program must have an interval meter and Internet access to (*utility system*), a Web-based notification system.

DEFINITION OF TIME PERIODS:

SUMMER (service from XXXX through XXXX):

CPP operating days - As defined in (utility name) CPP rate schedule.

Peak: As defined in the customer's otherwise-applicable rate schedule.

Partial-Peak: As defined in the customer's otherwise-applicable rate schedule.

Off-Peak: As defined in the customer's otherwise-applicable rate schedule.

WINTER (service from XXX through XXX)

Partial-Peak: As defined in the customer's otherwise-applicable rate schedule.

Off-Peak: As defined in the customer's otherwise-applicable rate schedule.

CONTRACTS: Customers must submit a signed CWADR Program Agreement (Form XXX). Contracts will be for a specific period : 1 (one) to 5 (five) years, for a specified on-peak demand reduction (kW) response according to a critical peak pricing (CPP) event, and for curtailment for either the entire six hour CPP event or the three hour CPP High Priced Period.

Customer will contract for specific on-peak demand reductions by year for up to 5 years.

Year	Nominated Curtailed Demand	6 CPP hours or 3 High Priced CPP Hours
2007	1,000 kW	6
2008	1,000 kW	6
2009	900 kW	6
2010	850 kW	6
2011	700 kW	6

CAPACITY PRICES:

	Capacity Price
Six hour CPP period	$85/kW-year
Three hour High Priced CPP period	$56/kW-year

CAPACITY PAYMENTS: Customer can choose to either be paid for demonstrated demand curtailments on a monthly basis (annual capacity price divided by number of months in utility CPP period),

or can receive an up front initial payment for the duration of the contract.

The up front initial payment is the net present value (NPV) using a utility discount rate of 7.5 percent of the capacity prices multiplied by the nominated annual curtailed demand. Customer will be billed for any difference between monthly actual demand reductions and nominated demand reductions, as described in the Capacity Penalty section.

Year	Nominated Curtailed Demand	x	Discounted Capacity Price (6 CPP hours)
2007	1,000 kW		$85
2008	1,000 kW		$79
2009	900		$72
2010	850		$66
2011	700		$60

NPV = $326,294

CAPACITY PENALTY:

If no CPP Events were called during the operating month, then the Capacity Payment for the operating month is equal to product of Nominated Capacity and Monthly Capacity Price. If one or more CPP Events were called during the operating month, then the Capacity Payment for the operating month is the sum of the Adjusted Hourly Capacity Payments multiplied by Capacity Penalties for the operating month:

1) The Hourly Delivered Capacity for the event hour is equal to the customer energy baseline (CEB) for the event hour minus the average actual demand during the event hour. The average demand is defined as the energy consumed during the event hour converted to demand measured in kilowatts. The Hourly Delivered Capacity cannot be less than zero (0).
2) The Hourly Delivered Capacity Ratio for the event hour is Hourly Delivered Capacity divided by the Nominated Capacity.
3) The Unadjusted Hourly Capacity Payment equals the product of the Nominated Capacity for the operating month and the Capacity Price for the operating month divided by the number of event hours in the operating month.
4) The Adjusted Hourly Capacity Payment/Penalty is determined from the following

1. table:

Average Monthly Hourly Delivered Capacity (%)	Capacity Penalty (%)	Monthly Capacity Payment
90-100%	0	1.0* nominated capacity*capacity price
75-90%	30%	.70 * nominated capacity*capacity price
50-75%	66%	.33 *nominated capacity*capacity price
0-50%	100%	.0 * nominated capacity*capacity price

ENERGY RATES: Customer Otherwise Applicable Tariff rates.

PROGRAM OPERATIONS: Include description of operations from utility CPP tariff

CUSTOMER MULTIPLE- A customer with multiple accounts may participate in the CWADR program with all accounts that have interval metering. A water agency may also aggregate accounts

METER PREMISES:	from other customers in which they have a contractual relationship to provide water with. Each account and the customer's taxpayer identification number must be listed on the CWADR Agreement. The bill for each account will be calculated on a stand-alone basis. Water agencies can aggregate its accounts with the accounts of its customers for this program.
METERING EQUIPMENT:	Each participating customer account must have an interval meter installed that can be remotely read by *utility*. Metering equipment (including telephone line, cellular, or radio communication device) must be in operation for at least ten (10) days prior to participating in the program. If applicable, the customer may also be responsible for the installation and monthly fees associated with telephone equipment and a dedicated line required for the remote reading or monitoring of the interval meter.
INTERACTION WITH OTHER DEMAND REDUCTION PROGRAMS:	Participants in the CWADR program may also participate in the Demand Bidding Program (Schedule DBP) and the California Power Authority Demand Reserves Partnership Program (CPA DRP) but shall not receive energy payment for performance under those programs during CPP event hours. CWADR participants may also participate in PWADR. CWADR participants shall not participate in *{list}* programs while participating in this program.
SPECIAL CONDITIONS:	Demonstrated Reductions Customer Energy Baseline (CEB): The customer specific energy baseline will be determined on an hourly basis using the customer's own average energy usage for the three (3) highest total energy usage days out of the ten (10) days prior to a CPP Event. Example – A customer had an average demand of 0.25 MW during CPP events. Highest three- day average on-peak use was 1.25 MW. Curtailable demand reduction was 1 MW (1.25MW average use - .25MW CPP use).

PERMANENT WATER AGENCY DEMAND RESPONSE (PWADR) SAMPLE TARIFF

yellow/orange=inserted information
red = comments and illustrations

APPLICABILITY: The permanent water agency demand response (PWADR) program is a voluntary program to incentivize water agencies to permanently shift some of its demand out of the summer on-peak period. Schedule PWADR is available to all *(utility name)* bundled-service customers served on electric rate schedules *(list)* or its successors. Each customer must continue to take service under the provisions of its otherwise-applicable Tariff (OAT). The PWADR program only operates during the summer months *(list)*.

All customer accounts on this program must have an interval meter and Internet access to *(utility system)*, a Web-based notification system.

DEFINITION OF TIME PERIODS:

SUMMER (service from XXXX through XXXX):

Peak: As defined in the customer's otherwise-applicable rate schedule.

Partial-Peak: As defined in the customer's otherwise-applicable rate schedule.

Off-Peak: As defined in the customer's otherwise-applicable rate schedule.

WINTER (service from XXX through XXX)

Partial-Peak: As defined in the customer's otherwise-applicable rate schedule.

Off-Peak: As defined in the customer's otherwise-applicable rate schedule.

CONTRACTS: Customers must submit a signed PWADR Program Agreement (Form XXX). Contracts will be for a specific period: 1 (one) to 5 (five) years, and for a specified on-peak demand reduction (kW) during the peak period hours. Customers participating in permanent on-peak demand reduction may stay on its traditional utility tariffs.

Customer will contract for specific on-peak demand reductions by year for up to 5 years. Example of a water agency that installed storage prior to needing it for water supply and must reduce permanent on-peak reduction amount as water demand grows :

Year	Nominated Permanent Demand Reduction
2007	1,000 kW
2008	1,000 kW
2009	900 kW
2010	850 kW
2011	700 kW

CAPACITY PRICES: Capacity Price $85/kW-year

CAPACITY PAYMENTS: Customer can choose to either be paid for demonstrated demand curtailments on a monthly basis (annual capacity price divided by number of months in utility summer period), or can receive an up front initial payment for the duration of the contract. The up front initial payment is the net present value (NPV) using a utility discount rate of 7.5 percent of the capacity prices multiplied by the nominated annual curtailed demand.

Customer will billed for any difference between monthly actual demand reductions and nominated demand reductions, as described in the Capacity Penalty section.

Year	Nominated Curtailed Demand	x	Discounted Capacity Price
2007	1,000 kW		$85
2008	1,000 kW		$79
2009	900 kW		$72
2010	850 kW		$66
2011	700 kW		$60

NPV = $326,294

CAPACITY PENALTY

The Capacity Payment for the operating month is the sum of the Adjusted Hourly Capacity Payments multiplied by Capacity Penalties for the operating month:

1) The Hourly Delivered Capacity for the hour is equal to the customer energy baseline (CEB) for the hour minus the average actual demand during the hour. The average demand is defined as the energy consumed during the hour converted to demand measured in kilowatts. The Hourly Delivered Capacity cannot be less than zero (0).
2) The Hourly Delivered Capacity Ratio for the hour is Hourly Delivered Capacity divided by the Nominated Capacity.
3) The Unadjusted Hourly Capacity Payment equals the product of the Nominated Capacity for the operating month and the Capacity Price for the operating month divided by the number of peak hours in the operating month.
4) The Adjusted Hourly Capacity Payment/Penalty is determined from the following
1) table:

Average Monthly Hourly Delivered Capacity (%)	Capacity Penalty (%)	Monthly Capacity Payment
90-100%	0	1.0* nominated capacity*capacity price
75-90%	25%	.75 * nominated capacity*capacity price
50-75%	50%	.50 *nominated capacity*capacity price
25-50%	75%	.25 * nominated capacity*capacity price
0-25%	100%	0 * nominated capacity*capacity price

ENERGY RATES:

Customer Otherwise Applicable Tariff rates.

CUSTOMER MULTIPLE-METER PREMISES:

A customer with multiple accounts may participate in the PWADR program with all accounts that have interval metering. A water agency may also aggregate accounts from other customers in which they have a contractual relationship to provide water with. Each account and the customer's taxpayer identification number must be listed on the PWADR Agreement. The bill for each account will be calculated on a stand-alone basis.

Water agencies can aggregate its accounts with the accounts of its customers for this program.

METERING EQUIPMENT:

Each participating customer account must have an interval meter installed that can be remotely read by *utility*. Metering equipment (including telephone line, cellular, or radio communication device) must be in operation for at least ten (10) days prior to participating in the program. If applicable, the customer may also be responsible for the

installation and monthly fees associated with telephone equipment and a dedicated line required for the remote reading or monitoring of the interval meter.

INTERACTION WITH OTHER DEMAND REDUCTION PROGRAMS:

Participants in the PWADR program may also participate in the Demand Bidding Program (Schedule DBP) and the California Power Authority Demand Reserves Partnership Program (CPA DRP), but shall not receive energy payment for performance under those programs during CPP event hours. PWADR participants may also participate in CWADR program. PWADR participants shall not participate in *{list}* programs while participating in this program.

SPECIAL CONDITIONS:

Demonstrated Reductions

Customer Energy Baseline (CEB): The customer specific energy baseline will be established for various water delivery amounts in the Technical Assessment report, based upon either recorded historic operations, or benchmarked simulated future operations (if significant new load is being added by the water agency).

Permanent on-peak load reductions will be determined on a monthly basis using the customer's own average energy usage during the on-peak period and the customer average water deliveries compared with the average energy use for the same level of water deliveries established in the Technical Assessment.

Example – Customer contracts for 1 MW permanent reduction. Technical assessment showed that customer used an average of 2.5 MW for 10 mg (million gallons) delivery during on-peak period. During July customer used average of 1.25 MW on-peak and delivered average of 10 mg on peak. Permanent on-peak load reduction amount was 1.25 MW (2.5MW-1.25MW).

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Methodology Example

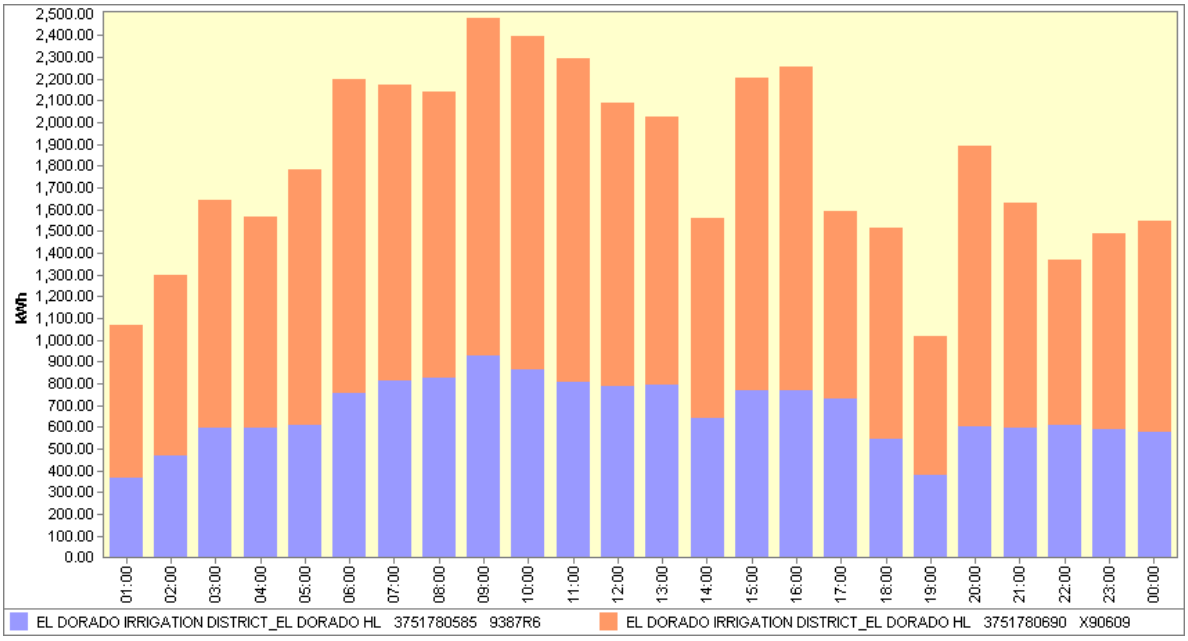
The following graph from El Dorado illustrates how the permanent/curtailable methodology would work.

In 2004, the average on-peak demand for these two EID stations was 1.81 MW. In 2005, after the storage was installed, the average on-peak demand was 0.53 MW. Both days EID distributed comparable amounts of water (a little over 11MG).

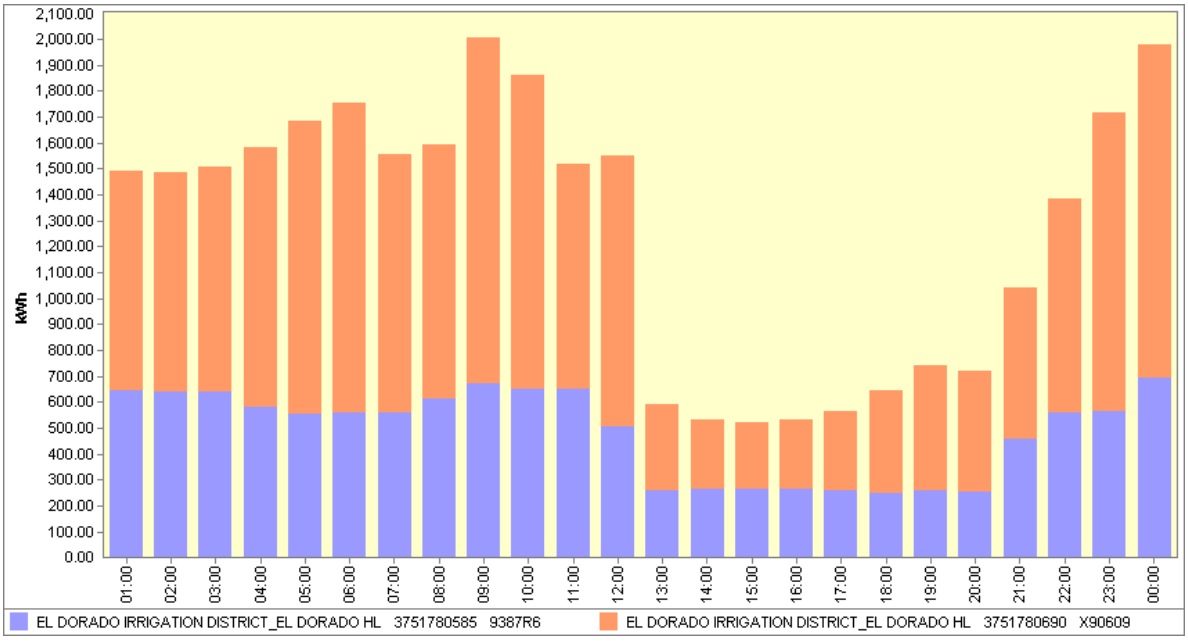
For permanent demand reduction credit, the actual usage (530 kW) would be subtracted from the pre-storage recorded on-peak demand (1,810 kW) to get a permanent on-peak reduction value of 1,280 kW.

If June 14, 2005, was a typical day for the month, the EID's baseline would be 530 kW for the curtailable baseline. In other words, if it shut everything off in response to a CPP call EID would get credited for 530 kW of curtailable on-peak demand.

El Dorado Hills Raw Water Pump Station and Water Treatment Plant Electrical Demand – Permanent and Curtailable On-peak Demand Reduction Example



June 14, 2004 11.56 MG



June 14, 2005 11.03 MG

Costs

Annual allocation of program costs among utilities:

- PG&E 45% ($1.35 million)
- SCE 45% ($1.35 million)
- SDG&E 10% ($0.3 million).

This initial allocation is roughly allocated according to on-peak water agency demand in respective service territories. Final allocation will depend upon how many water agencies in each respective territory participate in the program.

Utility administration costs: $100,000 per year.

ACWA administration costs: $250,000 per year. ACWA will identify water agency candidates for these programs (see example of work already done in following section), will do the marketing for these programs, and will provide the technical assessments necessary for water agencies to participate in both programs.

Specific Examples of Identified Opportunities

- A wholesale water agency in the North Coast provides water to nine retail water agencies. By combining operations and adding a new storage facility more than 2 MW of on-peak demand can be curtailed.
- An agricultural water agency in the Central Valley wants to install a 55 ft. tall storage tank. This additional storage can reduce the on-peak demand by 1 MW.
- A wholesale water agency in the Central Valley pumps treated water up to a retail water agency. The retail agency has storage at the top of the hill. By combining retail water storage ability with wholesale pumps, 1 MW of on-peak demand can be dropped.
- A water agency in a high growth area of the Central Valley is installing another 6,000hp (4.5MW) of pumps to meet water demand at a pumping bank that currently has 7,000hp installed (5.25 MW). It has room for about 5MG of storage at the top of the hill, which would result in a future on-peak demand reduction of over 8 MW.
- A water agency currently has sufficient storage to allow a number of its customers to reduce its on-peak well pumping. The estimated on-peak

reduction is 1-2.5MW.

- A desert city wants to work with a water agency to install residential water time-of use meters on all residences in the city. The estimated on-peak water agency electrical demand reduction is on the order of 5MW.

DISCUSSION/RECOMMENDATIONS

While these programs were developed for, and presented as, water agency programs, we recognize that the concept may be applicable to other sectors. For example, the permanent on-peak demand reduction option may be very attractive to technologies such as thermal storage to reduce peak air conditioning demands. We would have no issue with expanding these programs to include other sectors, provided the program funding is expanded accordingly.

We would ask the Commission to order the utilities to adopt these programs effective January 1, 2007. It takes a considerable amount of analysis and a significant lead time to implement peak period demand shifting within the water community. If we have any hope for any additional on-peak demand reduction or demand response in 2007 these programs will need to be available by the beginning of 2007.

Thank you for your consideration of these issues.

Respectfully submitted,

By: _____

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Date: September 15, 2006

CERTIFICATE OF SERVICE

I, Lon House, certify that I have, on this date, served the **Proposals in Response to Commissioner Peevey's ACRs on Demand Response** by electronic mail on the parties listed on the Service List for the proceeding in California Public Utilities Commission Docket No. A.05-06-006 and copies to Docket Office by mail.

I declare under penalty of perjury, pursuant to the laws of the State of California, that the foregoing is true and correct.

Executed on September 15, 2006, in Sacramento, California.

_____

Lon W. House